

REMARKS35 USC Section 112, 1st Paragraph Rejections:

Claims 16-23 were rejected under 35 USC Section 112, 1st paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention. The Examiner submits that these claims are beyond the scope of the specification, as only a limited form (with antimicrobial inorganic, of sufficient concentration) of sol gel film has been shown to be sufficient to provide kill rate of 0.5.

Applicants have amended claims 16 - 20 to include the limitation that the sol gel film contains at least one inorganic antimicrobial agent. Claims 21 – 23 depend from currently amended claims 18-20. Thus, Applicants respectfully submit that this rejection has now been overcome.

35 USC Section 102 (b) Rejections:

Claims 16-23 were rejected under 35 USC 102(b) as being anticipated by Matsuno et al. (US Pat. No. 5,234,717). The Examiner submits that Example 1 in the '717 patent discloses a sol gel silicate on glass which meets the instant claims to hard surface substrates coated with a sol gel.

Case law shows that a claim is anticipated only when the single reference discloses the identical invention, in as complete detail as is contained in the claim, and when every element of

the claimed invention is literally present, arranged as claimed, in the reference. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Applicants have amended claims 16-20 to include the limitation that the sol gel film contains at least one inorganic antimicrobial agent. Claims 21 – 23 depend from currently amended claims 18-20. Accordingly, Applicants respectfully submit that Matsuno et al. specifically do not disclose “[A] hard surface substrate to which a sol-gel film has been applied over at least a portion of the surface thereof, wherein said sol-gel film contains at least one inorganic antimicrobial agent...” as recited by Applicants in claims 16-23. Thus, since the reference patent does not contain each and every limitation or element of Applicants’ invention, Applicants respectfully submit that claims 16-23, as currently amended, are not anticipated by Matsuno et al.

Claims 1-23 were rejected under 35 USC 102(b) as being anticipated by Oku et al. (US Pat. No. 5,882,808). The Examiner submits Oku et al. disclose silver ion exchange compounds and other metals incorporated in hard surface coatings which are able to impact resistance to heat and provide bacteriacidal effects to the substrates (col. 4, line 46-65 and Example 13). Although *Klebsiella pneumoniae* was not tested by Oku et al., the Examiner contends that “a number of other bacteria were tested (col. 7) and one would find, since the compositions are the instant, the test results would be, too.”

Applicants respectfully submit that Oku et al. do not disclose each and every limitation or element of Applicants’ invention as required by case law (previously cited). Oku et al. teach anti-bacterial and anti-fungal ceramic products, wherein the ceramic products have a glazed surface, and wherein the glaze layer is a fine layer of a glass substance (col. 1, lines 8 -10 and 26 - 28). In contrast, Applicants claim a sol-gel and further disclose that a sol is “a dispersion of

colloidal particles in a liquid” and a gel is “an interconnected, rigid network with pores of submicrometer dimensions and polymeric chains whose average length is greater than a micrometer.” (page 9, lines 6-8). Accordingly, the glaze layer of Oku et al. is not the same element or limitation as the sol-gel disclosed and claimed by Applicants. Thus, since the reference patent does not contain each and every limitation or element of Applicants’ invention, Applicants respectfully submit that claims 1-23 are not anticipated by Oku et al.

35 USC Section 102 (e) Rejections:

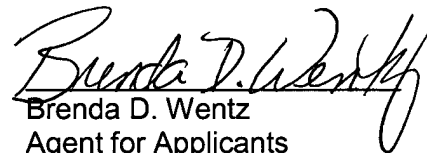
Claims 1-23 were rejected under 35 USC 102(e) as being anticipated by Sherman (US Patent Application Publication 2002/0005145). The Examiner submits that Sherman discloses a sol-gel film, which incorporates metal oxides, applied to hard surfaces and exhibiting antibacterial efficacy. The Examiner contends that if the test results claimed by Applicants were carried out by Sherman, the same results – lack of heat/melt distortion and kill rate – would be found.

Applicants again rely upon the same case law previously cited. Sherman discloses dispersing nanoparticulate titanium dioxide in a polar sol-forming medium to make a sol suitable as a coating which may provide anti-microbial effects (see Abstract). However, Sherman fails to disclose an antimicrobial sol-gel film comprising at least one inorganic antimicrobial agent, wherein said film exhibits a log kill rate for *Klebsiella pneumoniae* of at least 0.5 as measured under a modified plate contact method, as claimed by Applicants. Thus, since the reference patent does not contain each and every limitation or element of Applicants’ invention, Applicants respectfully submit that claims 1-23 are not anticipated by Sherman.

In view of the above amendments and remarks, reconsideration of pending claims 1-23
is earnestly solicited.

Respectfully requested,

May 30, 2003

A handwritten signature in black ink, appearing to read "Brenda D. Wentz", is written over a horizontal line.

Brenda D. Wentz
Agent for Applicants
Registration Number: 48,643
(864) 503-1597